

KIRTLANDIA®

The Cleveland Museum of Natural History

June 2001

Number 52:63-66

PRESENTATION OF THE DAVID S. INGALLS, JR. AWARD FOR EXCELLENCE*

PRESENTATION OF THE AWARD

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Tonight The Cleveland Museum of Natural History has the honor of presenting the sixth David S. Ingalls, Jr. Award for Excellence. It is awarded to an individual for excellence in research, education, or conservation in one of the fields of natural science represented by the Museum. Our honoree is Dr. Tim D. White, who, at the age of 50, has become a major figure in human evolutionary studies. Dr. White is our youngest recipient of this prestigious award.

His academic training began at the University of California, Riverside where he received his Bachelor of Science degree in biology and anthropology. Just last year that university honored him with their Distinguished Alumnus of the Year Award. He earned his master's and doctoral degrees at the University of Michigan in Ann Arbor in the field of biological anthropology.

He is presently a professor in the Department of Integrative Biology at the University of California, Berkeley. Concurrently, he is the Curator of the Physical Anthropology collection at the Hearst Museum.

Professor White has made enormous contributions to the field of human evolution. He is internationally recognized as the leading expert on hominid evolution during the Pliocene. He has been part of the team that discovered and named one genus, *Ardipithecus*, and three species,

Ardipithecus ramidus, *Australopithecus afarensis*, and *Australopithecus garhi*, of early hominids. No other single individual has accomplished this feat.

Dr. White's African research in the field of paleontology began at Lake Turkana in Kenya in 1974. It then expanded into the famous sites of Laetoli and Olduvai Gorge, Tanzania. Later his efforts centered on the Main Rift Valley and Afar regions of Ethiopia. For the past twenty years he has been a paleoanthropology team leader in the Middle Awash Research area of Ethiopia. Admirably, in his work there, he has trained a number of African Ph.D.s.

During the quarter of a century he has carried on fieldwork in eastern and southern Africa he has been responsible for the discovery of dozens of new fossil localities. Dr. White developed the excavation method used at the famous Laetoli footprint locality. He was also largely responsible for equipping and organizing the physical anthropology laboratory at the National Museum of Ethiopia. It is here that the fossil bones of Lucy are now safely preserved, for after five years of scientific study and the production of casts of the bones here at The Cleveland Museum of Natural History, the fossils were returned to their country of origin. Dr. White was a primary player in the study of Lucy.

* On March 9, 2001, the David S. Ingalls, Jr. Award for Excellence was presented to Tim D. White. The remarks printed here are excerpted from those presented on that occasion.

For over twenty years he has been affiliated with The Cleveland Museum of Natural History as a Research Associate in Physical Anthropology. He has done extensive study of our world renowned Hamann-Todd Skeletal Collection and worked with Museum staff to develop the techniques used to replicate the Ethiopian Fossils. In 1978 he coauthored a key scientific paper with Dr. Yves Coppens and Dr. Donald C. Johanson, who was at that time our Curator of Physical Anthropology. This research paper, introducing the Lucy fossils to the world, was entitled "A new species of the genus *Australopithecus* (Primates: Hominidae) from the Pliocene of eastern Africa." It was published in the Museum's scientific publication, *Kirtlandia*.

In addition to his work in Africa, Dr. White's research has taken him worldwide. He has studied fossil remains of hominids and other fauna in Asia, the Middle East, and Europe. His research has included extensive study of human and non-human primate skeletal collections at museums in our country and many countries abroad. Funding for his research on the origins of man has come from numerous grants provided by organizations such as the National Science Foundation, the National Geographic Society, and The L. S. B. Leakey Foundation.

Dr. White has over 100 publications, including three books, to his credit. His *Human Osteology* (2000), is the leading textbook on the study of the human skeleton. He is the world's authority on cannibalism and wrote the leading book on that topic in 1992. He is also a world authority on fossil pig evolution and published the leading monograph on that subject in 1979.

Is it any wonder that his work has appeared on the covers of the journals *Nature* and *Science* several times? This is surely indicative of his stature in the scientific community.

With his extensive knowledge of human evolution, he has often written reviews of books by others in his field. He has presented professional papers at scientific conferences here and abroad and has been an invited lecturer at universities, colleges, museums, and other institutions worldwide. Also, he has received numerous prestigious scientific awards.



Tim D. White, March 9, 2001

Dr. White, your influence on the field of physical anthropology is immeasurable. Your research has been of tremendous benefit to the enlightenment of humankind in understanding our genesis and evolutionary history. It is truly an honor for me, on behalf of the Board of Trustees of The Cleveland Museum of Natural History, to present this award to you in recognition of such excellence in your chosen field.

REPLY

TIM D. WHITE

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A few years ago, the American Academy of Achievement made a film about scientists and how they were drawn to science. Featured were the giants of physics, chemistry, molecular biology—scientists whose names are familiar to us all. And it turns out that a remarkable number of these luminaries began their scientific investigations of the world with early experiences in natural history.

Natural history served them, and serves us today, as a critically important portal through which young people engage and enter science. This wonderful museum, with its world-class research, its superb collections, and its cutting-edge educational programs, is contributing enormously to Ohio, the nation, and the world. The world of science will continue to owe a great debt to institutions such as this one—crucibles that help foster the development of good science.

There will always be a place for great museums of natural history, and it is a personal delight for me to return here to accept the David S. Ingalls, Jr. Award for Excellence. I am particularly touched by the wonderful sculpture that Larry Isard has made for this occasion, a work of art that truly captures the essence of the majestic gorilla and will always remind me of tonight.

I first came here as a graduate student, and I've come back many times in the last 27 years. This lecture is associated with an award, but I cannot accept this as an award to Tim White. You see, by definition, any award bestowed on me rewards the efforts and contributions of the team of people I work with. I can therefore only accept this award on behalf of all of my colleagues. Several team members are here tonight. Professor C. Owen Lovejoy, from Kent State University is here. How many times have Owen and I gone back to the collections downstairs to check another observation, to gain another insight? And Bruce Latimer, now in charge of Physical Anthropology at the museum, Bruce is always a source of inspiration, with a smile and character that energize all around him, here and also in the deserts of in Africa. And Scott Simpson, who's not here at the moment, but who is right now probably watching the sun rise in Ethiopia, hopefully on his way to finding another hominid. And Luba Gudz, an artist here at the museum who has accurately rendered our discoveries for a worldwide audience of scientists over the last quarter of a century. And Lyman Jellema.

Nobody knows the collections like Lyman. No other person has figured so importantly, in so many research efforts in physical anthropology, by so many colleagues around the world, as Lyman. It is indeed a great honor and a warm feeling to be among such friends and colleagues tonight.

Research in Africa shows that we weren't always humans. And we weren't EVER chimpanzees. Work like that conducted by the large group of people I have mentioned is the only means to approach the deep past and to extract clues that can teach us about it. Tonight I speak for all these colleagues on the Middle Awash research project, colleagues who study everything from the interpretation of satellite imagery to the biomechanical analysis of the recovered fossils, from the isotopic studies of the rock and soil samples to the shapes and sizes of lizards and birds and bats and snails, and so many other clues that have managed to escape the ravages of time. All of this work is aimed at revealing the ways that we were.

The creationist prediction about what all this research would reveal is simple. For the creationist, it was all modern humans, all the way back. Darwin's prediction was different. Today, the Middle Awash affords us a great open-air laboratory in which to directly test these very different predictions.

Any one of about eight slices thru time that we are currently investigating in the Middle Awash project would be a lecture in itself. Tonight I've chosen to focus on the way we were two-and-a-half million years ago, and to concentrate on a behavioral revolution in the human career.

We have discovered a new species of *Australopithecus* that we have named *garhi*, the Afar word for "surprise," because of its surprising combination of features, and because it was found in a horizon where the butchery of large ungulates with stone tools had occurred two-and-a-half million years ago. These discoveries have opened a window on a poorly-known period in Africa, further illuminating our ancestry.

Lacking a fossil record for the human past, Darwin was forced to triangulate ancestors from evolution's end products—modern people and modern apes. He concluded that our evolution involved a gradually expanding brain, reducing canine teeth, increasing bipedality, and tool use. We now know that we didn't happen that way.

By at least four million years ago, there were fully bipedal creatures with small canines and small brains and no stone tools. Much later, by 2.5 million years ago, we now know that stone tools and large mammal butchery were key parts of one hominid's behavior. By two million years ago, larger-brained bipeds had appeared.

The new discoveries of early hominids and their behaviors tell us that some time shortly after three million years ago a bipedal primate embarked on a technological journey that would ultimately take it to the Silicon Valley, and on into space.

Going "lithic" at 2.5 million years ago was a big revolution—it expanded the small brained bipedal primate's niche to make it a super-omnivore. Here was a primate that directly competed with hyaenas, wild dogs, and large cats. This revolution had vast implications for selective pressures on this primate, and, ultimately, on its descendant's geographic spread out of Africa.

This behavioral revolution was probably the second largest behavioral shift in our career, second only to the evolution of bipedality that we now know to have come millions of years earlier.

In this field, people go on and on about the names of fossils. And about their different ideas regarding the shape details of the family tree. The bottom line is that the detailed geometry of this tree is still unknown because there's not enough evidence. Only work in the fossil fields and in developmental biology laboratories will bring us closer to resolving issues of early hominid species and their relationships.

But the variety of tongue-twisting names and the rapidly-changing family trees are not interesting compared to the big picture. What's the big picture that's already been sketched in by paleoanthropology? As Darwin predicted, the record clearly shows increasingly apelike hominids the further back you go.

And T. H. Huxley's as right as he was over a century ago. This search for our origins is still the most fascinating of all human investigations. Human evolutionary studies present fundamentally interesting questions. The creationist answers developed a few thousand years ago by hunter-gatherers in Australia, by farmers in Mesoamerica, and by prehistoric pastoralists in the Middle East, are all interesting and important—but in a folkloric perspective, and in the context of religious studies. NONE of these myths have predicted what we have ALREADY found in the Middle Awash.

There are many more things to learn, but here in ONE place in the Horn of Africa, in the Middle Awash, we have a sequence that already shows what some people don't want the kids in Kansas to know: Our African roots are very deep, and it wasn't humans all the way back.

So that's my report about what we've been learning about the way we were at 2.5 million years ago. I hope that Owen, and Bruce, and Scott, and I will have more chances to get together with you here as the leadership, staff, and collections of The Cleveland Museum of Natural History continue to support our research, and as we continue to publish some of the other things that we've found in Ethiopia—fossils and their contexts that tell us about the ways we were at a quarter million, one million, 4.4 million, and now even 5.8 million years ago.

This museum has played a major role in these discoveries, and in the building of knowledge about our ancestry. I am both proud and humbled to have been a participant in this research, and along the way to have explored the wonderful collections held in trust at an institution with such a glorious past and a bright, beckoning future. I thank you for inviting me, and for this wonderful award.